

AMENDMENTS TO THE CLAIMS:

Please amend claim 1 as follows.

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A device for detecting infrared radiation comprising:
a resonator element fixably attached to a supporting frame;
an electrical oscillator for driving said resonator element into resonance, characterised in that
wherein the supporting frame is arranged adapted to absorb infrared radiation received by the device thereby altering a resonant property of said resonator element; and
mounting means for mounting said supporting frame on a substrate and for providing thermal isolation between said substrate and said supporting frame.
2. (original) A device according to claim 1 wherein the supporting frame comprises a suspended portion spaced apart from the underlying substrate of the device, the resonator element being fixably attached to the suspended portion.
3. (original) A device according to claim 2 wherein the suspended portion is spaced apart from the underlying substrate by a distance that is sufficient to form a resonant absorption structure for radiation having a wavelength within the infrared detection band of the device.
4. (previously presented) A device according to claim 2 wherein the suspended portion is suspended from the underlying substrate on at least one leg.

5. (original) A device according to claim 4 wherein the at least one leg comprises conductive material arranged to provide an electrical connection between the suspended portion and the underlying substrate.

6. (previously presented) A device according to claim 1 wherein the supporting frame comprises a layer of infrared absorbent material.

7. (previously presented) A device according to claim 1 wherein the resonator element and the supporting frame have different coefficients of thermal expansion.

8. (previously presented) A device according to claim 1 wherein a resonant frequency of the resonator element is arranged to vary when infrared radiation is absorbed by the device.

9. (previously presented) A device according to claim 1 and further comprising oscillation means to drive the resonator element into resonance.

10. (original) A device according to claim 9 wherein the oscillation means is arranged to electrostatically drive the resonator element.

11. (previously presented) A device according to claim 1 wherein the resonator element is fixably attached to the supporting frame at two or more points.

12. (previously presented) A device according to claim 1 wherein the resonator element comprises an elongate flexible beam.

13. (previously presented) A device according to claim 1 wherein the supporting frame comprises a layer of material having an aperture defined therein.

14. (previously presented) A device according to claim 13 wherein the resonator element comprises an elongate flexible beam, said elongate flexible beam being arranged to lie across the aperture defined in the layer of material.

15. (previously presented) A device according to claim 1 wherein at least one of the supporting frame and resonator element comprise a shape memory alloy.

16. (previously presented) A device according to claim 1 comprising a plurality of detection elements, each detection element comprising a resonator element fixably attached to a supporting frame.

17. (original) A device according to claim 16 wherein each detection element has an axis of symmetry.

18. (previously presented) A detector according to claim 16 wherein each detection element is arranged to output an electrical signal that is indicative of the resonant frequency of the associated resonator element.

19. (previously presented) A detector according to claim 16 wherein an array of detection elements is provided.

20. (previously presented) A device according to claim 1 that is formed using a micro-fabrication process.

21. (previously presented) A device according to claim 1 and further comprising readout electronics.

22. (original) A device according to claim 21 wherein the supporting frame and resonator element are vertically integrated with the readout electronics.

23. (previously presented) A thermal imaging camera incorporating a device according to claim 1.